

# CHIARA LISOTTI

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## PERSONAL PROFILE

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I am a PhD student in the field of astroparticle physics at the University of Sydney. My research involves performing theoretical calculations regarding the directional detection of feebly interacting particles such as neutrinos and dark matter across different sources. I am fluent in English and Italian, my mother tongue.

## ACADEMIC STUDIES

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### PhD Candidate in Astroparticle Physics Theory

**University of Sydney**

📅 January 2023 – Present

📍 Sydney, Australia

### First Class Honours B.A. Hons Bachelor Degree in Theoretical Physics

**Trinity College Dublin**

📅 September 2018 – May 2022

📍 Dublin, Ireland

## PAPERS AND PUBLICATIONS

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### 'Searching for beyond-Standard-Model solar neutrino interactions using directional detectors'

**A. Chandra Shekar, C. Lisotti, N. Mishra, C. A. J. O'Hare, L. E. Strigari**

📅 June 11, 2025

😊 [2506.09322] 📚 Phys. Rev. D 112, 123021 (2025)

### 'CYGνS: Detecting solar neutrinos with directional gas time projection chambers'

**C. Lisotti, C. A. J. O'Hare, E. Baracchini, V. U. Bashu, L. J. Bignell, F. D., M. Ghrear, G. J. Lane, L. J. McKie, P. C. McNamara, S. Torelli**

📅 April 2, 2024

😊 [2404.03690] 📚 Eur. Phys. J. C 84, 1021 (2024)

## BURSARIES

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### Special Initiatives Funding

**ARC Center of Excellence for Dark Matter**

📅 April 2025

Funding amounting to a max of 5000AUD to be used for physics outreach on social media

### Postgraduate Research Support Scheme 2025

**University of Sydney Faculty of Science**

📅 March 2025

## PhD Scholarship in Dark Matter Detection

University of Sydney

📅 January 2023

## AWARDS

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### Best Talk Award

2025 ARC Center of Excellence for Dark Matter Annual Meeting

📅 November 2025

### Outreach and Impact Award

2025 ARC Center of Excellence for Dark Matter Annual Meeting

📅 November 2025

### Collaboration and Centre Values Award

2025 ARC Center of Excellence for Dark Matter Annual Meeting

📅 November 2025

### Faculty of Science Postgraduate Research Prize for Leadership

University of Sydney

📅 May 2025

## PRESENTATIONS

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### 'An overview of CYGNUS' reach for dark matter and neutrino searches 2.0'

9th Sydney Consortium for Particle Physics and Cosmology Meeting

📅 November 27, 2025

📍 University of New South Wales, Australia

### 'Directional Detection of Boosted Dark Matter'

ARC Centre of Excellence for Dark Matter Annual Workshop

📅 November 20, 2025

📍 Canberra, Australia

### 'An overview of CYGNUS' reach for dark matter and neutrino searches'

ARC Centre of Excellence for Dark Matter Annual Workshop

📅 November 21, 2024

📍 Wollongong, Australia

### 'CYG $\nu$ S: Detecting solar neutrinos with directional gas time projection chambers'

Dark Matter Centre Fortnightly Meeting

📅 April 18, 2024

📍 Remote

### 'Detecting Solar Neutrinos with Directional Gas TPCs'

7th Sydney CPPC Meeting

📅 February 9, 2024

📍 University of Sydney

# POSTER PRESENTATIONS

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*'Searching for bSM solar neutrino interactions using directional detectors'*

Summer School on Neutrino Physics Beyond the Standard Model

 June 29, 2025

 Strasbourg, France

*'Optimising recoil imaging detectors for extraterrestrial particles'*

IDM 2024 Conference

 July 10, 2024

 L'Aquila, Italy

*'Detectability of Dark Matter and Neutrinos in a Gas TPC'*

ARC Centre of Excellence for Dark Matter Particle Physics, Annual Workshop

 November 10, 2023

 Adelaide, Australia

*'Detectability of Dark Matter and Neutrinos in a Gas TPC'*

HDR Symposium

 November 10, 2023

 University of Sydney

# TUTORING EXPERIENCE

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Tutor, Course Development

Computational Lab for 2<sup>nd</sup> Year Physics

 July 2024 – Present

 University of Sydney

Tutor

Computational Modelling

 January 2024 – Present

 University of Sydney

Course Development

Astrophysics Computer Lab for 3<sup>rd</sup> Year Physics

 January 2025 – February 2025

 University of Sydney

Tutor

Astronomy Elective Courses

 August 2023 – November 2024

 University of Sydney

# COMMITTEE WORK

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Committee member

Mentoring Committee

 August 2023 – Present

 ARC Centre of Excellence for Dark Matter Particle Physics

## HDR Student Representative

School of Physics

📅 2024 – 2025

📍 University of Sydney

## Committee member

Faculty of Science Conference Organising Committee

📅 May 2024 – September 2024

📍 University of Sydney

## Committee member

HDR Symposium Committee 2023

📅 August – November 2023

📍 University of Sydney

# OUTREACH AND PUBLIC ENGAGEMENT

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## ‘DMystified’

Social Media Dark Matter and Physics Outreach

📅 April 2025 – Present

📍 Remote

## Volunteer

STEMPals Program

📅 March 2024 – Present

📍 Remote

## Volunteer

Dark Matter Outreach in Schools

📅 June 2025

📍 Rural NSW

## Mentor

Science Extension Program

📅 October 2024 – May 2025

📍 Remote

## Volunteer

“National Quantum & Dark Matter Road Trip 2024” DemoDay Event

📅 August 2024

📍 University of Sydney

## Volunteer

“National Quantum & Dark Matter Road Trip 2023” DemoDay Event

📅 July 2023

📍 University of Sydney